

PRELIMINARY AMENDMENT  
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than 158° F.;

(c) a 50% D-86 distillation point [less] no greater

than [208° F.] 215° F.;

(d) a 90% D-86 distillation point no greater

than 315° F.;

(e) a paraffin content greater than [72] 75 volume

*C1*  
percent;

(f) an olefin content less than 8 volume percent;

(g) an aromatics content of at least 4.5 volume

percent; and

(h) an octane value of at least 87.

*C2*  
Please add the following claims:

*3*  
85. An unleaded gasoline, suitable for combustion in an  
automotive engine, having the following properties:

(a) a Reid Vapor Pressure less than 7.5 psi;

(b) a 10% D-86 distillation point no greater than 149° F.;

(c) a 50% D-86 distillation point no greater than 215° F.;

*C2*  
(d) a 90% D-86 distillation point less than 300° F.;

(e) a paraffin content greater than 65 volume percent;

(f) an olefin content less than 8 volume percent;

(g) an aromatics content of at least 4.5 volume percent; and

(h) an octane value of at least 87.

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~~86.~~ An unleaded gasoline, suitable for combustion in an automotive engine, having the following properties:

- (a) a Reid Vapor Pressure less than 7.5 psi;
- (b) a 10% D-86 distillation point less than 140° F.;
- (c) a 50% D-86 distillation point no greater than 215° F.;
- (d) a 90% D-86 distillation point no greater than 315° F.;
- (e) a paraffin content greater than 65 volume percent;
- (f) an olefin content less than 8 volume percent;
- (g) an aromatics content of at least 4.5 volume percent; and
- (h) an octane value of at least 87.

C2

~~87.~~ An unleaded gasoline, suitable for combustion in an automotive engine, having the following properties:

- (a) a Reid Vapor Pressure less than 7.5 psi;
- (b) a 10% D-86 distillation point no greater than 158° F.;
- (c) a 50% D-86 distillation point no greater than 215° F.;
- (d) a paraffin content greater than 65 volume percent;
- (e) an olefin content less than 8 volume percent;
- (f) an aromatics content of at least 4.5 volume percent; and
- (g) an octane value of at least 92.

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6 88. An unleaded gasoline, suitable for combustion in an automotive engine, having the following properties:

- (a) a Reid Vapor Pressure less than 7.5 psi;
- (b) a 10% D-86 distillation point no greater than 158° F.;
- (c) a 50% D-86 distillation point no greater than 215° F.;
- (d) a 90% D-86 distillation point less than 300° F.;
- (e) a paraffin content greater than 50 volume percent;
- (f) an olefin content less than 6 volume percent;
- (g) an aromatics content of at least 4.5 volume percent; and
- (h) an octane value of at least 92.

7 89. An unleaded gasoline, suitable for combustion in an automotive engine, having the following properties:

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- (a) a Reid Vapor Pressure less than 7.0 psi;
- (b) a 10% D-86 distillation point no greater than 158° F.;
- (c) a 50% D-86 distillation point no greater than 215° F.;
- (d) a paraffin content greater than 50 volume percent;
- (e) an olefin content less than 6 volume percent;
- (f) an aromatics content of at least 4.5 volume percent; and
- (g) an octane value of at least 92.

4 5 <sup>20</sup> 90. An unleaded gasoline as defined in claim 84, 85, 86, 87, 88, or 89 wherein the 50% D-86 distillation point is no greater than 210° F.

4 5 <sup>21</sup> 91. An unleaded gasoline as defined in claim 84, 85, 86, 87, 88, or 89 wherein the 50% D-86 distillation point is no greater than 205° F.

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*1 2*  
*3 4 8*. An unleaded gasoline as defined in claim *83, 84,*  
*85, 86, 87, or 88* wherein the Reid Vapor Pressure is less than  
7.0 psi.

*31* *5 7*  
*31*. An unleaded gasoline as defined in claim *81* or *89*  
wherein the 90% D-86 distillation point is no greater than 315°F.

*1 2*  
*3 4 94* *10*  
*85, 86 or 87* An unleaded gasoline as defined in claim *83, 84,*  
wherein the olefin content is less than 6 volume  
percent.

*1 2*  
*3 4 95* *9*  
*35, 86, 87, 88 or 89* An unleaded gasoline as defined in claim *83, 84,*  
wherein the olefin content is less than 4  
volume percent.

*C2*

*1 4*  
*4 5 96*  
*86, 87, 88 or 89* An unleaded gasoline as defined in claim *83, 85,*  
wherein the paraffin content is greater than 70  
volume percent.

*1 5*  
*4 5 91*  
*86, 87, 88 or 89* An unleaded gasoline as defined in claim *83, 85,*  
wherein the paraffin content is greater than 72  
volume percent.

*1 2*  
*3 4 98* *12*  
*85, or 86* An unleaded gasoline as defined in claim *83, 84,*  
wherein the octane value is at least 92.

*1 2*  
*3 5 99* *13*  
*83, 87, 88, or 89* An unleaded gasoline as defined in claim *83, 84,*  
wherein the 10% D-86 distillation point is less  
than 140° F.

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*i 15*

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4 5 23 2 3  
100. An unleaded gasoline as defined in claim 84, 85,  
86, 87, or 88 wherein the Reid Vapor Pressure is less than 7.0  
psi and the 50% D-86 distillation point is no greater than 210°F.

4 5 24 2 3  
101. An unleaded gasoline as defined in claim 84, 85,  
86, 87, or 88 wherein the Reid Vapor Pressure is less than 7.0  
psi and the 50% D-86 distillation point is no greater than 205°F.

3 4 11 1 2  
102. An unleaded gasoline as defined in claim 85, 84,  
85, 86, or 87 wherein the Reid Vapor Pressure is less than 7.0  
psi and the olefin content is less than 6 volume percent.

4 5 19 1 3  
103. An unleaded gasoline as defined in claim 85, 86,  
86, 87, or 88 wherein the Reid Vapor Pressure is less than 7.0  
psi and the paraffin content is greater than 70 volume percent.

5 30 2 4  
104. An unleaded gasoline as defined in claim 84, 85,  
or 86 wherein the Reid Vapor Pressure is less than 7.0 psi, the  
50% D-86 distillation point is no greater than 210° F., and the  
90% D-86 distillation point is less than 300° F.

31 2 4  
105. An unleaded gasoline as defined in claim 84, 85,  
or 86 wherein the Reid Vapor Pressure is less than 7.0 psi, the  
50% D-86 distillation point is no greater than 205° F., and the  
90% D-86 distillation point is less than 300° F.

33 3 4  
106. An unleaded gasoline as defined in claim 85, 86,  
87, or 88 wherein the Reid Vapor Pressure is less than 7.0 psi,

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the 50% D-86 distillation point is no greater than 210° F., and the paraffin content is greater than 70 volume percent.

4 ~~5~~ <sup>26</sup> 107. An unleaded gasoline as defined in claim ~~84, 85,~~  
~~86,~~ or ~~87~~ wherein the Reid Vapor Pressure is less than 7.0 psi,  
the 50% D-86 distillation point is no greater than 210° F., and  
the olefin content is less than 6 volume percent.

4 ~~5~~ <sup>25</sup> 108. An unleaded gasoline as defined in claim ~~84, 85,~~  
~~86, 87,~~ or ~~88~~ wherein the Reid Vapor Pressure is less than 7.0  
psi, the 50% D-86 distillation point is no greater than 205° F.,  
and the olefin content is less than 4 volume percent.

12 4 ~~5~~ <sup>35</sup> 109. An unleaded gasoline as defined in claim ~~84,~~  
~~86,~~ or ~~87~~ wherein the Reid Vapor Pressure is less than 7.0 psi,  
the 50% D-86 distillation point is no greater than 210° F., the  
paraffin content is greater than 70 volume percent and the olefin  
content is less than 6 volume percent.

4 ~~5~~ <sup>34</sup> 110. An unleaded gasoline as defined in claim ~~84,~~  
~~86, 87,~~ or ~~88~~ wherein the Reid Vapor Pressure is less than 7.0  
psi, the 50% D-86 distillation point is no greater than 205° F.,  
the paraffin content is greater than 70 volume percent and the  
olefin content is less than 4 volume percent.

4 ~~5~~ <sup>18</sup> 111. An unleaded gasoline as defined in claim ~~84, 85,~~  
~~86,~~ or ~~87~~ wherein the Reid Vapor Pressure is less than 7.0 psi,  
the paraffin content is greater than 70 volume percent and the  
olefin content is less than 6 volume percent.

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D 4 5 32 122. An unleaded gasoline as defined in claim 85,  
86, 87, or 88, or 89 wherein the 50% D-86 distillation point is no  
greater than 210° F. and the paraffin content is greater than 70  
volume percent.

4 5 21 123. An unleaded gasoline as defined in claim 84, 85,  
86, or 87 wherein the 50% D-86 distillation point is no greater  
than 210° F. and the olefin content is less than 6 volume  
percent.

C2 4 5 6 22 124. An unleaded gasoline as defined in claim 84, 85,  
86, 87, 88, or 89 wherein the 50% D-86 distillation point is no  
greater than 205° F. and the olefin content is less than 4 volume  
percent.

7 38 125. An unleaded gasoline as defined in claim 87 or  
88 wherein the 50% D-86 distillation point is no greater than  
210° F. and the 90% D-86 distillation point is no greater than  
315° F.

5 7 28 126. An unleaded gasoline as defined in claim 84, 85,  
86, or 87 wherein the 50% D-86 distillation point is no greater  
than 205° F. and the 90% D-86 distillation point is less than  
300° F.

4 5 19 127. An unleaded gasoline as defined in claim 82, 83,  
84, or 85 wherein the paraffin content is greater than 70 volume  
percent and the olefin content is less than 6 volume percent.

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*16*  
*4, 5, 6, 7* 128. An unleaded gasoline as defined in claim *82, 83,*  
*80, 81, 82, 83, or 84* wherein the paraffin content is greater than 70  
volume percent and the olefin content is less than 4 volume  
percent.

*39*  
*1, 2* 129. An unleaded gasoline as defined in claim *81* or  
*85* wherein the paraffin content is greater than 70 volume percent  
and the 90% D-86 distillation point is no greater than 315° F.

*34*  
*5, 7* 120. An unleaded gasoline as defined in claim *86;*  
*81 or 82* wherein the paraffin content is greater than 70 volume  
percent and the 90% D-86 distillation point is less than 300° F.

*C2* *40*  
*1, 2* 121. An unleaded gasoline as defined in claim *87* or  
*88* wherein the paraffin content is greater than 70 volume  
percent, the olefin content is less than 4 volume percent, and  
the 90% D-86 distillation point is no greater than 315° F.

*29*  
*4, 2* 122. An unleaded gasoline as defined in claim *84, 85*  
or *86* wherein the octane value is at least 92 and the 50% D-86  
distillation point is no greater than 210° F.

*41*  
*1, 2* 123. A method comprising:  
(1) blending at least two hydrocarbon-containing streams  
together to produce at least 50,000 gallons of an unleaded gasoline as  
defined in claim *83*; and  
(2) commencing delivery of unleaded gasoline produced in  
step (1) to gasoline service stations.

*42*

124. A method comprising:

(1) blending at least two hydrocarbon-containing streams together to produce at least 50,000 gallons of an unleaded gasoline as defined in claim *84*; and

(2) commencing delivery of unleaded gasoline produced in step (1) to gasoline service stations.

*43*

125. A method comprising:

(1) blending at least two hydrocarbon-containing streams together to produce at least 50,000 gallons of an unleaded gasoline as defined in claim *85*; and

(2) commencing delivery of unleaded gasoline produced in step (1) to gasoline service stations.

*42*

*44*

126. A method comprising:

(1) blending at least two hydrocarbon-containing streams together to produce at least 50,000 gallons of an unleaded gasoline as defined in claim *86*; and

(2) commencing delivery of unleaded gasoline produced in step (1) to gasoline service stations.

*45*

127. A method comprising:

(1) blending at least two hydrocarbon-containing streams together to produce at least 50,000 gallons of an unleaded gasoline as defined in claim *87*; and

(2) commencing delivery of unleaded gasoline produced in step (1) to gasoline service stations.

*46*

128. A method comprising:

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(1) blending at least two hydrocarbon-containing streams together to produce at least 50,000 gallons of an unleaded gasoline as defined in claim 87; and

(2) commencing delivery of unleaded gasoline produced in step (1) to gasoline service stations.

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129. A method comprising:

(1) blending at least two hydrocarbon-containing streams together to produce at least 50,000 gallons of an unleaded gasoline as defined in claim 87; and

(2) commencing delivery of unleaded gasoline produced in step (1) to gasoline service stations.

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130. A method comprising:

(1) blending at least two hydrocarbon-containing streams together to produce at least 50,000 gallons of an unleaded gasoline suitable for combustion in an automotive engine and having the following properties:

(a) a Reid Vapor Pressure less than 7.5 psi;

(b) a 10% D-86 distillation point no greater than 158° F.;

(c) a 50% D-86 distillation point no greater than 212° F.;

(d) a 90% D-86 distillation point no greater than 315° F.;

(e) a paraffin content greater than 50 volume percent;

(f) an olefin content less than 8 volume percent;

(g) an aromatics content of at least 4.5 volume percent; and

(h) an octane value of at least 87; and

(2) commencing delivery of unleaded gasoline produced in step (1) to gasoline service stations.

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131. A method comprising:

(1) blending at least two hydrocarbon-containing streams together to produce at least 50,000 gallons of an unleaded gasoline suitable for combustion in an automotive engine and having the following properties:

- (a) a Reid Vapor Pressure less than 7.0 psi;
- (b) a 10% D-86 distillation point no greater than 158° F.;
- (c) a 50% D-86 distillation point no greater than 215° F.;
- (d) a paraffin content greater than 50 volume percent;
- (e) an olefin content less than 8 volume percent;
- (f) an aromatics content of at least 4.5 volume percent; and
- (g) an octane value of at least 87; and

(2) commencing delivery of unleaded gasoline produced in  
step (1) to gasoline service stations.

C2

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132. A method comprising:

(1) blending at least two hydrocarbon-containing streams together to produce at least 50,000 gallons of an unleaded gasoline suitable for combustion in an automotive engine and having the following properties:

- (a) a Reid Vapor Pressure less than 7.5 psi;
- (b) a 10% D-86 distillation point no greater than 158° F.;
- (c) a 50% D-86 distillation point no greater than 215° F.;
- (d) a 90% D-86 distillation point no greater than 315° F.;
- (e) a paraffin content greater than 65 volume percent;
- (f) an olefin content less than 8 volume percent;
- (g) an aromatics content of at least 4.5 volume percent; and
- (h) an octane value of at least 87; and

(2) commencing delivery of unleaded gasoline produced in

step (1) to gasoline service stations.

~~46 47 51~~ 123. A method as defined in claim ~~123, 124, 125, 126, 127, 128, 130, or 132~~ wherein the Reid Vapor Pressure of said unleaded gasoline is less than 7.0 psi.

~~48 49 54~~ 124. A method as defined in claim ~~123, 124, 125, 126, 128, 130, 131, or 132~~ wherein the octane value of said unleaded gasoline is at least 92.

~~47 48 50 60~~ 125. A method as defined in claim ~~124, 125, 126, 127, 128, 129, 130, 131, or 132~~ wherein the 50% D-86 distillation point of the unleaded gasoline is no greater than 210° F.

~~47 48 51 61~~ 126. A method as defined in claim ~~124, 125, 126, 127, 128, 129, 130, 131, or 132~~ wherein the 50% D-86 distillation point of the unleaded gasoline is no greater than 205° F.

~~46 47 52 62~~ 127. A method as defined in claim ~~123, 124, 125, 126, 127, 128, 129, 130, 131, or 132~~ wherein the 50% D-86 distillation point of the unleaded gasoline is less than 200° F.

~~47 48 53 63~~ 128. A method as defined in claim ~~127, 129, or 131~~ wherein the 90% D-86 distillation point of the unleaded gasoline is no greater than 315° F.

~~47 48 54 64~~ 129. A method as defined in claim ~~123, 125, 126, 127, 128, 129, 130, 131, or 132~~ wherein the paraffin content of the unleaded gasoline is greater than 70 volume percent.

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*48* *49* *50* *43* *44* *45* *46*  
*120*. A method as defined in claim *124*, *125*, *126*, *127*, *128*,  
*120*, or *122* wherein the 50% D-86 distillation point of the unleaded  
gasoline is no greater than 210° F. and the Reid Vapor Pressure is  
less than 7.0 psi.

*46* *47* *48* *49* *50* *41* *42* *43* *44* *45*  
*128*, *129*, *130*, *131*, or *122* wherein said delivery in step (2) is  
commenced to a service station located in a geographical area wherein  
the operation of automobiles substantially contributes to air  
pollution.

*52* *53* *54* *51*  
*12* *12*. A method as defined in claim *123* wherein said delivery  
in step (2) is commenced to a service station located in a  
geographical area wherein the operation of automobiles substantially  
contributes to air pollution.

*55* *56* *57* *58*  
*123*. A method as defined in claim *124* wherein said delivery  
in step (2) is commenced to a service station located in a  
geographical area wherein the operation of automobiles substantially  
contributes to air pollution.

*61* *62* *63* *64*  
*124*. A method as defined in claim *125* wherein said delivery  
in step (2) is commenced to a service station located in a  
geographical area wherein the operation of automobiles substantially  
contributes to air pollution.

*66* *67* *68*  
*125*. A method as defined in claim *126* wherein said delivery  
in step (2) is commenced to a service station located in a  
geographical area wherein the operation of automobiles substantially  
contributes to air pollution.

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contributes to air pollution.

*64* *63*  
146. A method as defined in claim 140 wherein said delivery in step (2) is commenced to a service station located in a geographical area wherein the operation of automobiles substantially contributes to air pollution.

*C2* *45 46 47 48 49 50* *51 52 53 54*  
A method as defined in claim 123, 124, 128, 126, 127, 128, 129, 130, 131, or 132 wherein said delivery in step (2) is commenced to a service station located in Los Angeles county.

*53* *51*  
148. A method as defined in claim 143 wherein said delivery in step (2) is commenced to a service station located in Los Angeles county.

REMARKS

The present amendment amends claims 83 and 84 and adds claims 85 to 148, with claims 83 to 122 being composition claims and claims 123 to 148 being method claims, the latter directed to manufacturing and using unleaded automotive gasolines having properties for reducing automotive exhaust emissions.